

Amendment A to SN 09/879,709

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Remarks:

Applicant confirms the election of claims 1-17 and has amended claims 18-21 to be drawn to a tire assembly.

As required in the Office Action, the specification has been amended to incorporate the language of claim 9, stating that the ball has an internal pressure that is substantially greater than the ambient pressure in order to maintain the ball in an inflated state. The specification also has been amended to state that, while a thin-walled ball relies upon the difference in pressure between the inside and outside of the ball to remain inflated, a thick-walled ball relies on the stiffness of the material of the ball to provide support to the tire. This does not add new matter, as the information about the thin-walled ball is in claim 9, and the information about a thick-walled ball is in the background on page 2, beginning on line 2.

Claim 9 was rejected as being indefinite for two reasons. First, it was stated that "ambient pressure" was not clear. Claim 9 has been amended to make it clear that the ambient pressure is the gas pressure acting on the outside of the ball. Second, the terms "thin" and "substantially greater" are said to be unclear. The amendment to the specification should now make it clear that a thin-walled ball is a ball that relies upon the difference between the internal and external pressures in order to be inflated, while a thick-walled ball relies upon the stiffness of the material, as was the case in many prior art balls used in tires. The word "substantially" has been removed, which should remove any confusion caused by the phrase "substantially greater". This should resolve the questions about clarity with respect to claim 9.

The phrase "substantially greater" was also said to make claim 6 unclear. Again, the word "substantially" has been removed for clarity. As was described in the specification, the balls may be inflated to different pressures in order to create an effect similar to providing knobs on the tire, **"in that the lower pressure balls would compress more under load than the higher pressure balls, causing the portions of the tire 12 supported by the higher pressure balls to dig into the support surface, giving the resulting assembly very good traction properties."** Claim 6 also has been amended to add the functional language that the lower pressure balls compress more under load than the higher pressure balls. The intention of this claim is that the difference in pressure between the balls should be greater than what would just be due to normal manufacturing and gauge tolerances.

Claims 5 and 13 were also rejected as being indefinite, because the Examiner does not recognize the term "rim lock" as defining a common tire component. We are not sure what the Examiner means by a "bead spreader". A rim lock actually is a standard piece of equipment, and copies of pages from two catalogs are attached to this Amendment, showing various rim locks that are offered for sale. As stated on page 9, beginning on line 8, and as shown in Figures 3 and 7, the rim lock is bolted through the rim and presses portions of the tire edges against the recesses in order to secure the tire to the rim. The rim lock also wedges between two of the adjacent balls, tending to keep the balls in their

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proper positions. Since the rim lock is clearly shown and described in the specification, and since rim locks are known in the industry as indicated by the attached catalog pages, the use of the term "rim lock" in claims 5 and 13 should not be considered indefinite.

Claim 1 has been amended to require each ball to have a diameter that spans the space between the tire and the rim. This means that there will be a single layer of balls between the tire and the rim, not several layers as in the Kondou reference. Kondou teaches the use of many layers of small spherical elements 3, which are free to move around relative to each other within the space between the tire and the rim. This means that the balls of the invention recited in claim 1 are not free to move around relative to each other, and a ball that receives an impact from the ground will become deformed, which increases the internal pressure in that ball, causing it to resist additional distortion with a higher internal pressure, thereby protecting the rim from damage. This is explained on page 3 of the specification, beginning on line 14. The Kondou reference, having many layers of freely moving small balls, would function about the same as a regular tire filled with air, in which the internal pressure does not increase substantially, because the small balls would simply shift around within the large internal volume of the tire. Thus, both the structure and function of Kondou are different from the structure and function of the invention recited in claim 1.

The amended claim 1 also recites an invention that is both novel and unobvious in view of the Richards reference. As with Kondou, Richards teaches the use of many layers of small balls, which can freely shift relative to each other, as stated on page 2, second column, beginning on line 76 of that reference.

"The cells are free from connection with the tire casing and with each other, and due to their shape, are adapted to automatically move or readjust themselves within the tire casing to fill up the space formed by the collapsing of one or more of the cells."

Claim 6 depends from claim 1 and recites that adjacent balls within the tire have different internal pressures. This defines the structure of the claimed invention, wherein one ball has one internal pressure and the ball adjacent to it has a different internal pressure. The use of balls having different internal pressures is not taught or suggested by the prior art. Richards inflates the balls by pumping air into the tire casing, which opens check valves in the balls and enters into the balls. This is described in column 1, lines 36-46. This inflation process would cause all the balls to be inflated to substantially the same internal pressure, not to different internal pressures as claimed.

Claim 9 was also rejected based on the Richards reference. Claim 9 has also been amended to require that the diameter of each ball spans the space between the tire and the rim, so that a single layer of balls fills that space. It should also be noted that Richards teaches the use of a thick-walled ball, not a thin-walled ball as claimed. See column 2, line 106, which states, **"The wall of the cell is preferably sufficiently thick so that the cell will not collapse when being handled or when placed within the tire casing, prior to being inflated."**

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As all the claims define an invention that is both novel and unobvious in view of the prior art, Applicant respectfully requests allowance of all the claims now pending in the present application. If there are any further problems with this application, Applicant's attorney would appreciate a phone call to help expedite their resolution.

Respectfully submitted,



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1.85	56-041	\$15.86
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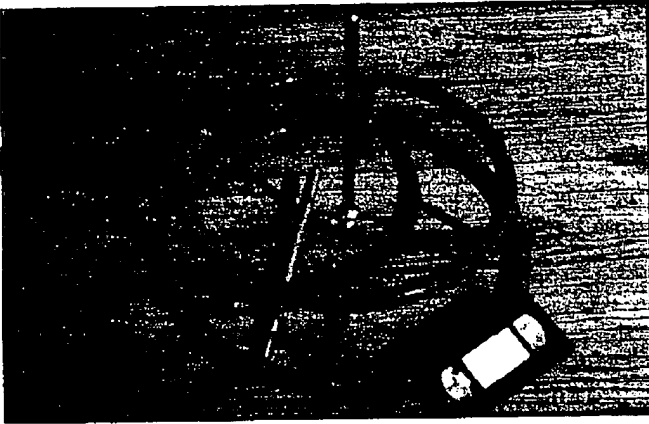
- Patching a tire tube is now as simple as peeling the back off of the Peel & Seal patch and applying it to the tube for a permanent tube repair without the messy glue
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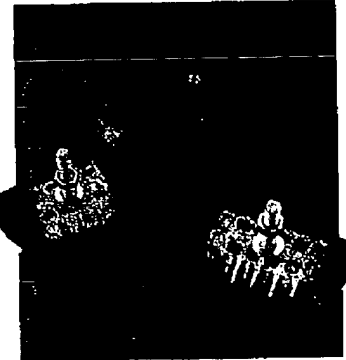


Slips easily over alloy rims and protects finish from tire tools when changing tires.

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ALLOY RIM LOCKS

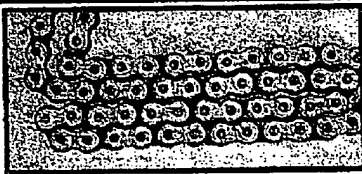
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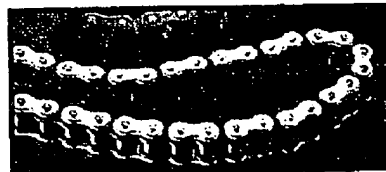
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